DIVISION OF INDUSTRY SERVICES
PO BOX 7162
MADISON WI 53707-7162
Contact Through Relay
http://dsps.wi.gov/programs/industry-services
www.wisconsin.gov

Scott Walker, Governor
Dave Ross, Secretary

August 30, 2016

CUST ID No. 1293249

ATTN: Plumbing Inspector

ALAN MAST
HELLENBRAND INC
404 MORAVIAN VALLEY RD
WAUNAKEE WI 53597

MUNICIPAL CLERK
VILLAGE OF EDEN
P.O. BOX 65
EDEN WI 53019-0065

CONDITIONAL APPROVAL
PLAN APPROVAL EXPIRES: 08/30/2018

Identification Numbers
Transaction ID No. 2742612
Site ID No. 585663
Please refer to both identification numbers, above, in all correspondence with the agency.

SITE:
Western Lime & Cement
N4520 Cty Rd V
Village of Eden, 53019
Fond Du Lac County

FOR:
Facility: 585663 WESTERN LIME & CEMENT
N4520 CTY RD V
EDEN 53019
Plan Type: Addition-Alteration; 1 Interior Fixture(s)

Object Type: Commercial Water Treatment Device Regulated Object ID No.: 1614201

The submittal described above has been reviewed for conformance with applicable Wisconsin Administrative Codes and Wisconsin Statutes. The submittal has been CONDITIONALLY APPROVED. The owner, as defined in chapter 101.01(10), Wisconsin Statutes, is responsible for compliance with all code requirements.

No person may engage in or work at plumbing in the state unless licensed to do so by the Department per s.145.06, stats.

The following conditions shall be met during construction or installation and prior to occupancy or use:

This approval is contingent upon compliance with the following stipulation(s):

- No bypass piping shall be installed serving the arsenic reduction device.
- Any wall hydrant that is not served by these arsenic treatment devices must have one, or more, of the following:

  1. The handles of the hydrant shall be removed;

  2. The hydrant shall be capped and sealed using solder; or

  3. Signage shall be posted immediately above the hydrant indicating the water is unfit for human consumption

- All potable water distal outlets not served by the arsenic reduction system, other than water closets/urinals shall display acceptable signage indicating the water is unfit for human consumption.
- All water distribution piping shall be marked as required by Table SPS 382.40-1a.

- If the water supply piping is used as an electrical ground, then properly sized electrical bonding jumpers must be installed to maintain the electrical continuity of the path to ground that is interrupted by the installation of plastic (i.e. insulating) water treatment device control valves.

- The treatment system to be installed is the AC-16 quad-plex parallel arsenic reduction system:

  http://dsps.wi.gov/sb/docs/sb-ppalopp/wtd/20150259.pdf

- Any chemicals injected into the potable water supply must conform with ANSI/NSF Standard 61 and be used at, or below, the specified maximum use concentration.

  The purpose of the free chlorine in this situation is to convert trivalent arsenic to pentavalent arsenic, not disinfection. If any low level free chlorine residual is detected, then the conversion of trivalent arsenic to pentavalent arsenic is virtually assured and occurs instantaneously. The sodium hypochlorite solution used shall be:

  http://info.nsf.org/Certified/PwsChemicals/Listings.asp?CompanyName=vertex&TradeName=CSS-10&ChemicalName=Sodium+Hypochlorite&ProductFunction=&PlantState=&PlantCountry=&PlantRegion=

  The maximum acceptable sodium hypochlorite solution is 50 mg/l.

  The function of the ferric chloride is to provide a precipitating iron source, such that co-precipitation of arsenic may proceed. The ferric chloride solution used shall be one of the following:

  http://info.nsf.org/Certified/PwsChemicals/Listings.asp?CompanyName=Hawkins&TradeName=&ChemicalName=Ferric+Chloride&ProductFunction=&PlantState=&PlantCountry=&PlantRegion=

  http://info.nsf.org/Certified/PwsChemicals/Listings.asp?CompanyName=PVS+technologies&TradeName=ferric+chloride%2C+solution&ChemicalName=Ferric+Chloride&ProductFunction=&PlantState=Illinois+IL&PlantCountry=&PlantRegion=

  The maximum acceptable ferric chloride concentration is 250 mg/l.

- The chemicals shall be introduced via approved positive displacement chemical feed pumps, specifically the Stenner E20PHG71S.

- Flow controls shall be installed to preclude the arsenic reduction device from exceeding is maximum rated service flow rate of 16.0 gpm.

- The existing onsite drain, waste and vent piping must be properly sized to accept the additional load of the regenerative effluents of the water treatment devices being installed.

- The finished installation must undergo a final inspection prior to the treated water being used for consumptive purposes. The Plumbing Consultant having jurisdiction in this area is Phil Mnuk. Mr. Mnuk can be reached via the following:

  Phone: 262-354-5167
  E-mail: phil.mnuk@wi.gov

  If the treated water is used for consumptive purposes prior to passing the final inspection, then this approval may be rendered null and void and the devices ordered removed. The Plumbing Consultant shall provide a written indication of the results of the final inspection to the system owner.

When the final inspection has been passed, the Plumbing Consultant will notify the Wisconsin Department of Natural Resources (WDNR) Field Staff having authority over the well. The WDNR will then monitor the quality of the treated water to its satisfaction. Monitoring advice, which the WDNR is free to accept or reject, is provided elsewhere in this letter. The WDNR Field Staff having authority over this well is Greg Moeller. Mr. Moeller can be contacted via the following:

Phone: 920-662-5147
E-mail: gregory.moeller@wisconsin.gov

- The suggested monitoring interval for this installation is quarterly. The following tests should be performed:

  1. Total dissolved arsenic;
  2. Free chlorine residual; and
  3. Total iron

  The water quality samples should be collected at a time of day when the devices are as near peak demand as possible. Untreated and treated water samples should be collected together in sets, the untreated sample taken upstream of all water treatment devices and the treated sample downstream of all water treatment devices.

- This product has undergone sufficient testing to document the product's ability to reduce only those contaminants and/or substances as specified in this approval letter when the product is installed and maintained in strict accordance with the manufacturer's published instructions.

- Where the Department of Natural Resources (DNR) has jurisdiction, a written approval may be required prior to installation of this product in a water supply system to reduce the concentration of a contaminant that exceeds the primary drinking water standards contained in ch. NR 809, Wis. Admin. Code, the enforcement standards contained in ch. NR 140, Wis. Admin. Code, or for a water supply system that is subject to a written advisory opinion by the DNR. For more information contact the DNR Section of Private Water Systems, P.O. Box 7921, Madison, WI 53707, telephone (608) 267-9787.

- If this approved device is modified or additional assertions of function or performance are made, then this approval shall be considered null and void, unless the change is submitted to the department for review and the approval is reaffirmed.

A full size copy of the approved plans, specifications and this letter shall be on-site during construction and open to inspection by authorized representatives of the Department, which may include local inspectors. If plan index sheets were submitted in lieu of additional full plan sets, a copy of this approval letter and index sheet shall be attached to plans that correspond with the copy on file with the Department. If these plans were submitted in an electronic form, the designer is responsible to download, print, and bind the full size set of plans along with our approval letter. A department electronic stamp and signature shall be on the plans which are used at the job site for construction. All permits required by the state or the local municipality shall be obtained prior to commencement of construction/installation/operation.

In granting this approval the Division of Industry Services reserves the right to require changes or additions should conditions arise making them necessary for code compliance. As per state stats 101.12(2), nothing in this review shall relieve the designer of the responsibility for designing a safe building, structure, or component.

Inquiries concerning this correspondence may be made to me at the telephone number listed below, or at the address on this letterhead.

Sincerely,

Glen W Schlueter
Plumbing Product Reviewer , Division of Industry Services
(608)267-1401 , Monday-Thursday 7:00AM-3:45PMPM
Friday 7:00AM-12:00PM
glen.schlueter@wisconsin.gov

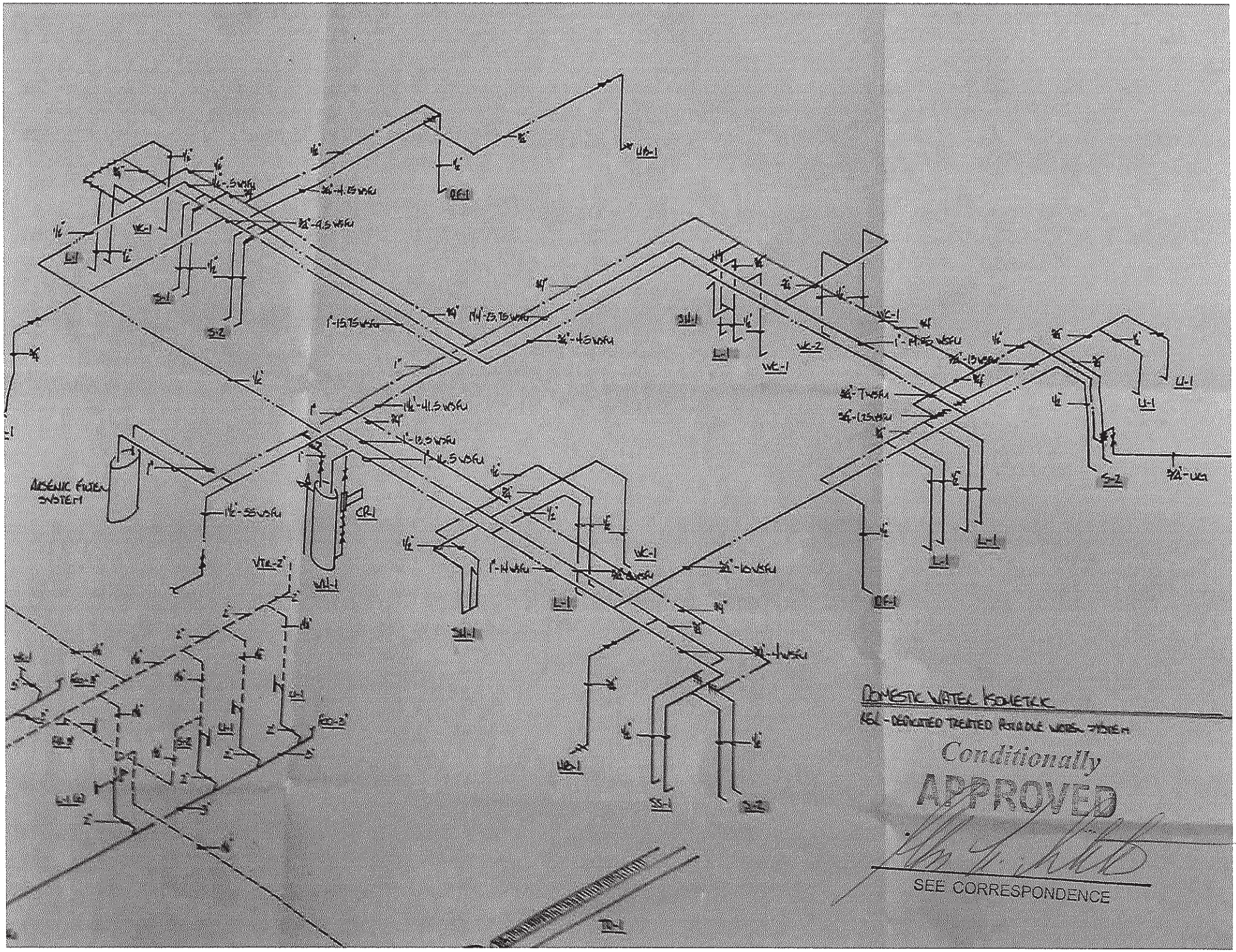
Fee Required $	160.00
Fee Received $	160.00
Balance Due $	0.00

WiSMART code: 7657

cc: Hellenbrand Inc
Philip Lawson Mnuk, Plumbing Consultant, (262) 354-5167, M-t 7:00AM-4:15PM -FRI-7:00AM -12:00AM
Amy Neste, Graymont Western Lime Corp

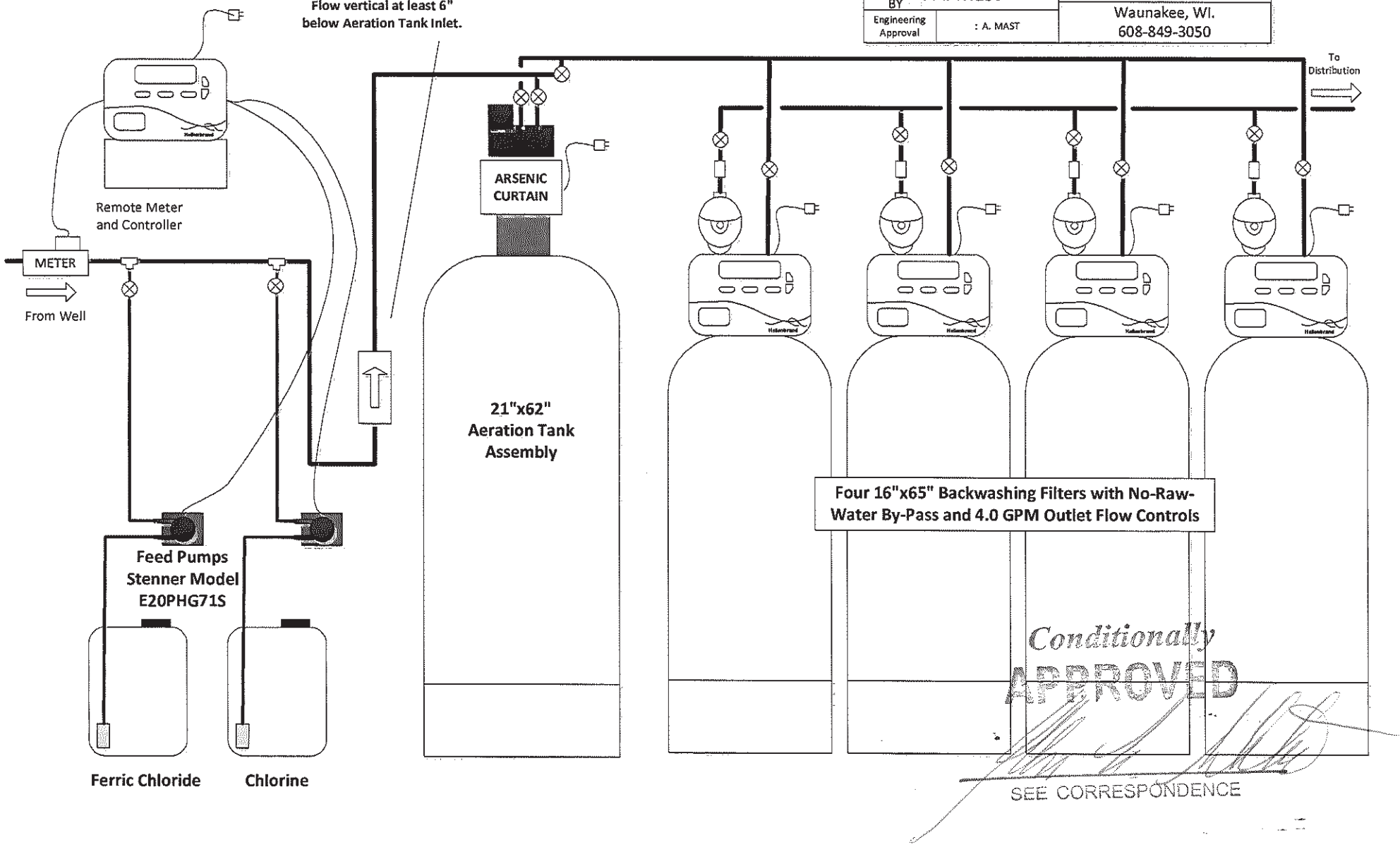
Note: Effective January 1, 2012, all codes under the jurisdiction of the Division of Industry Services (formerly Safety & Buildings) will be modified. Code references with prefixes starting with "Comm" have been replaced with "SPS" to recognize the relocation of the Division of Industry Services from the former Department of Commerce to the Department of Safety & Professional Services. Additionally, all IS (formerly S&B) codes have been renumbered and addressed in a "300" series. For future reference, the Wisconsin Commercial Building Code will be addressed by SPS Chapters 360-366.

Conditionally APPROVED
SEE CORRESPONDENCE


ARSENIC FILTER SYSTEM
DOMESTIC WATER ISOMETRIC
ASL - DESIGNATED TREATED POTABLE WATER SYSTEM
Conditionally
APPROVED
SEE CORRESPONDENCE

GRAYMONT Arsenic Reduction System P&ID

DWG Reference: Site Specific Graymont -	Hellenbrand *It's what you don't see that counts.*
6/28/2016	
DWG BY : A. Mast	Waunakee, WI. 608-849-3050
Engineering Approval : A. MAST	



Conditionally APPROVED

SEE CORRESPONDENCE

WATER DISTRIBUTION DATASHEET

Date: August 11, 2016

Name: AHERN - GROSS, INC.

Project: GRAYMONT WESTERN LIME - NON - POTABLE WATER

Street: P.O. BOX 1027

Street:

City: FOND DU LAC, WI 54936-1027

City:

1. 24.4 Gallon per minute buiding demand, predominatly Flush Tank.
2. 50.0 Low pressure at the Internal Pressure Tank.
3. .0 No water service.

4a. .0 No water lateral.

4b. .0 No 2nd part water lateral.

5. .0 No water meter.

6. 50.0 psi of pressure available at the Internal Pressure Tank. This value is entered in (B) below.

The (A) value listed below is determined by using the following formula, then rounding the result up.

$$A = \frac{B-(C+D+E)}{F} \times 100$$

A. 19 Pressure available for uniform loss (psi/100 feet of pipe).

B. 50.0 psi of pressure available at the Internal Pressure Tank.

C. 20.0 Pressure needed at the controlling fixture. SHOWER VALVE

D. 2.6 psi loss resulting from a 6.0 ft difference in elevation from the Internal Pressure Tank to the controlling fixture.

E. .0 psi pressure loss due to a no pressure loss devices serving the controlling fixture.

F. 150.0 Ft Developed length from the 100.0 ft actual length of piping from the Internal Pressure Tank to the controlling fixture.

Maximun Allowable load for Copper Tube Type M, ASTM B88

Nominal Size	1/2	5/8	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
Actual I. D.	.569	0	.811	1.055	1.291	1.527	2.009	2.495	2.981	3.935
Value of C	150	150	150	150	150	150	150	150	150	150
Velocity in ft per sec.	8	8	8	8	8	8	8	8	8	8
Maximum Gpm	6	0	12.5	21.5	32	45	79	121	174	303
Maximum FM WSFU	0	0	4.5	7	17	39	144	374	731	1835
Maximum FT WSFU	7	0	18	34	62	112	270	484	776	1835

Fixture Listing

Date: August 11, 2016

Name: AHERN - GROSS, INC.

Street: P.O. BOX 1027

City: FOND DU LAC, WI 54936-1027

Project: GRAYMONT WESTERN LIME - NON - POTABLE WATER

Street:

City:

Public Use Fixtures

		Hot	Cold	Total
1	Hose Bibb 1/2" diameter	.00	3.00	3.00
4	Hose Bibb, 3/4" diameter	.00	16.00	16.00
1	Sink, service	2.00	2.00	3.00
2	Urinal, washdown	.00	4.00	4.00
5	Water Closet, gravity type flush tank	.00	15.00	15.00
	Total Water Supply Fixture Units	2.00	40.00	41.00

24.4 Gallon per minute demand of the building. Predominatly Flush Tank
18.3 Pressure available for uniform loss. For the table use - 19.0

Maximun Allowable load for Copper Tube Type M, ASTM B88

Nominal Size	1/2	5/8	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
Actual I. D.	.569	0	.811	1.055	1.291	1.527	2.009	2.495	2.981	3.935
Value of C	150	150	150	150	150	150	150	150	150	150
Velocity in ft per sec.	8	8	8	8	8	8	8	8	8	8
Maximum Gpm	6	0	12.5	21.5	32	45	79	121	174	303
Maximum FM WSFU	0	0	4.5	7	17	39	144	374	731	1835
Maximum FT WSFU	7	0	18	34	62	112	270	484	776	1835

Conditionally
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WATER DISTRIBUTION DATASHEET

Date: August 11, 2016

Name: AHERN - GROSS, INC.

Street: P.O. BOX 1027

City: FOND DU LAC, WI 54936-1027

Project: GRAYMONT WESTERN LIME - POTABLE WATER

Street:

City:

1. 16.1 Gallon per minute buiding demand, predominatly Flush Tank.
2. 50.0 Low pressure at the Internal Pressure Tank.
3. .0 No water service.

4a. .0 No water lateral.

4b. .0 No 2nd part water lateral.

5. .0 No water meter.

6. 50.0 psi of pressure available at the Internal Pressure Tank. This value is entered in (B) below.

The (A) value listed below is determined by using the following formula, then rounding the result up.

$$A = \frac{B-(C+D+E)}{F} \times 100$$

A. 19 Pressure available for uniform loss (psi/100 feet of pipe).

B. 50.0 psi of pressure available at the Internal Pressure Tank.

C. 20.0 Pressure needed at the controlling fixture. SHOWER VALVE

D. 2.6 psi loss resulting from a 6.0 ft difference in elevation from the Internal Pressure Tank to the controlling fixture.

E. .0 psi pressure loss due to a no pressure loss devices serving the controlling fixture.

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Maximun Allowable load for Copper Tube Type M, ASTM B88

Nominal Size	1/2	5/8	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
Actual I. D.	.569	0	.811	1.055	1.291	1.527	2.009	2.495	2.981	3.935
Value of C	150	150	150	150	150	150	150	150	150	150
Velocity in ft per sec.	8	8	8	8	8	8	8	8	8	8
Maximum Gpm	6	0	12.5	21.5	32	45	79	121	174	303
Maximum FM WSFU	0	0	4.5	7	17	39	144	374	731	1835
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Fixture Listing

Date: August 11, 2016

Name: AHERN - GROSS, INC.

Street: P.O. BOX 1027

City: FOND DU LAC, WI 54936-1027

Project: GRAYMONT WESTERN LIME - POTABLE WATER

Street:

City:

Public Use Fixtures

		Hot	Cold	Total
2	Drinking Fountain	.00	.50	.50
5	Lavatory	2.50	2.50	5.00
2	Shower, per head	4.00	4.00	6.00
4	Sink, kitchen and food preparation per faucet	8.00	8.00	12.00
	Total Water Supply Fixture Units	14.50	15.00	23.50

16.1 Gallon per minute demand of the building. Predominatly Flush Tank
18.3 Pressure available for uniform loss. For the table use - 19.0

Maximun Allowable load for Copper Tube Type M, ASTM B88

Nominal Size	1/2	5/8	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
Actual I. D.	.569	0	.811	1.055	1.291	1.527	2.009	2.495	2.981	3.935
Value of C	150	150	150	150	150	150	150	150	150	150
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